

Application No: 09/681,022

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**In the Claims:**

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1. (CANCELED)
  2. (CURRENTLY AMENDED) A laminate according to claim 1-65 wherein the thermoplastic fibers include polyester, polyolefins, and nylon.
  3. (ORIGINAL) A laminate according to claim 2 wherein the polyester fibers include bicomponent fibers.
  4. (ORIGINAL) A laminate according to claim 3 wherein the binder fibers have a denier in the range of 0.8-200.
  5. (ORIGINAL) A laminate according to claim 4 wherein the binder fibers have a denier in the range of 6-25.
  6. (CURRENTLY AMENDED) A laminate according to claim 65-4 wherein the core layer batt has a basis weight in the range of 6-12 ounces/yd<sup>2</sup>.
  7. (ORIGINAL) A laminate according to claim 6 wherein the unmolded core layer batt has a thickness of 0.5-1.0 inches.
  8. (CURRENTLY AMENDED) A laminate according to claim 65-4 wherein the core layer batt has a basis weight of 6-24 ounces/yd<sup>2</sup>.
  9. (ORIGINAL) A laminate according to claim 8 wherein the unmolded core layer batt has a thickness of 0.5-2.0 inches.
  10. (CURRENTLY AMENDED) A laminate according to claim 65-4 wherein the binder fibers comprise bicomponent fibers.
  11. (CURRENTLY AMENDED) A laminate according to claim 65-4 wherein the binder fibers comprise low melting point fibers.
  12. (CURRENTLY AMENDED) A laminate according to claim 65-4 wherein the core layer batt comprises 35-45% by weight fine fibers having a denier of 0.8-1.2, 20-30% by weight fibers having a denier of 10-15, and the binder fibers comprise 30-40% by weight bicomponent fibers having a denier of 4-15.
  13. (ORIGINAL) A laminate according to claim 12 wherein the core layer batt comprises about 40% by weight fine fibers having a denier of about 1.0, about 25% by weight regular fibers having a denier of about 15, and about 35% by weight bicomponent fibers having a denier of about 5.

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14. (CURRENTLY AMENDED) A laminate according to claim 12, and further comprising a first and second web adhesive layer, the first web adhesive layer ~~is being~~ disposed between the core layer and the first strengthening layer, and the second web adhesive ~~is being~~ disposed between the core layer and the second strengthening layer, whereby the web adhesives enhance the bonding between the strengthening layers and the core layer.

15. (ORIGINAL) A laminate according to claim 14 wherein the web adhesive is a sheet of nonwoven polyester fibers.

16. (CURRENTLY AMENDED) A laminate according to claim ~~65~~1, and further comprising a first and second web adhesive layer, the first web adhesive layer ~~is being~~ disposed between the core layer and the first strengthening layer, and the second web adhesive ~~is being~~ disposed between the core layer and the second strengthening layer, whereby the web adhesives enhance the bonding between the strengthening layers and the core layer.

17. (ORIGINAL) A laminate according to claim 16, and further comprising a cover material bonded to the lower surface of the second strengthening layer.

18. (CURRENTLY AMENDED) A laminate according to claim ~~65~~1 wherein the strengthening layer batts comprise:

50-100% by weight polymeric fibers with a denier of 0.8-200, and

0-50% by weight binder materials.

19. (ORIGINAL) A laminate according to claim 18 wherein the binder materials are binder fibers.

20. (ORIGINAL) A laminate according to claim 18 wherein the polymeric fibers have a denier of 3-25.

21. (ORIGINAL) A laminate according to claim 20 wherein the strengthening layer batts have a basis weight of 3-24 ounces/yd<sup>2</sup>.

22. (ORIGINAL) A laminate according to claim 21 wherein the unmolded strengthening layer batts have a thickness of 0.1-1.0 inches.

23. (CURRENTLY AMENDED) A laminate according to claim 22 wherein the binder materials ~~include~~ include a thermosetting resin.

24. (ORIGINAL) A laminate according to claim 23 wherein the thermosetting resin is a powder which is present in an amount up to 20% by weight in the strengthening layers.

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25. (CURRENTLY AMENDED) A laminate according to claim 654, wherein the ~~core layer regular other fibers from form~~ the balance of the fibers in the core layer.
26. (CURRENTLY AMENDED) A laminate according to claim 654, wherein the strengthening layers have a greater density than the core layer.
27. (ORIGINAL) A laminate according to claim 26, wherein the strengthening layers are thinner than the core layer.
28. (ORIGINAL) A laminate according to claim 27, wherein the core layer has a greater resistivity than the strengthening layers.
29. (CURRENTLY AMENDED) A laminate according to claim 654, wherein each strengthening layer comprises less than 20% by weight fine fibers.
30. (CURRENTLY AMENDED) A laminate according to claim 29, wherein the core layer comprises at least 25% by weight fine fibers.
31. (CURRENTLY AMENDED) A laminate according to claim 654, wherein the percentage of fine fibers in each of the strengthening layers is not greater than half the percentage of fine fibers in the core layer and the fine fibers of each strengthening layer do not exceeding 20% by weight.
32. (CURRENTLY AMENDED) A laminate according to claim 654 wherein the denier of the core layer fine fibers is below 2.7.
33. (CANCELED)
34. (CURRENTLY AMENDED) A headliner according to claim 33-66 wherein the thermoplastic fibers include polyester, polyolefins, and nylon.
35. (ORIGINAL) A headliner according to claim 34 wherein the polyester fibers include bicomponent fibers.
36. (ORIGINAL) A headliner according to claim 35 wherein the binder fibers have a denier in the range of 0.8-200.
37. (ORIGINAL) A headliner according to claim 36 wherein the binder fibers have a denier in the range of 6-25.
38. (ORIGINAL) A headliner according to claim 37 wherein the core layer batt has a basis weight of 6-12 ounces/yd<sup>2</sup>.

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39. (ORIGINAL) A headliner according to claim 38 wherein the core layer batt has a molded thickness of 0.1-1.3 inches.

40. (ORIGINAL) A headliner according to claim 36 wherein the core layer batt has a basis weight of 6-24 ounces/yd<sup>2</sup>.

41. (ORIGINAL) A headliner according to claim 40 wherein the core layer batt has an molded thickness of 0.1-1.5 inches.

42. (CURRENTLY AMENDED) A headliner according to claim ~~66~~ 33 wherein the binder material comprises a thermosetting resin.

43. (ORIGINAL) A headliner according to claim 42 wherein the thermosetting resin comprises up to 20% of the core layer.

44. (CURRENTLY AMENDED) A headliner according to claim ~~66~~ 33 wherein the core layer batt comprises 35-45% fine fibers having a denier of 0.8-1.2, 20-30% ~~regular~~ other fibers having a denier of 10-15, and the binder materials comprise 30-40% bicomponent fibers having a denier of 4-15.

45. (CURRENTLY AMENDED) A headliner according to claim 44 wherein the core layer batt comprises about 40% fine fibers having a denier of about 1.0, about 25% ~~regular~~ other fibers having a denier of about 15, and about 35% bicomponent fibers having a denier of about 5.

46. (CURRENTLY AMENDED) A headliner according to claim 45, and further comprising a first and second web adhesive layer, the first web adhesive layer is being disposed between the core layer and the first strengthening layer, and the second web adhesive layer is being disposed between the core layer and the second strengthening layer, whereby the web adhesives enhance the bonding between the strengthening layers and the core layer.

47. (ORIGINAL) A headliner according to claim 46 wherein the web adhesive is a sheet of nonwoven polyester fibers.

48. (ORIGINAL) A headliner according to claim 46 wherein the strengthening layer batts comprise:

50-100% by weight polymeric fibers with a denier of 0.8-200, and

0-50% by weight binder materials.

49. (CURRENTLY AMENDED) The headliner according to claim 48, wherein the ~~core layer regular~~ other fibers have a denier between 4-15.

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50. (ORIGINAL) The headliner according to claim 48, wherein the polymeric fibers have a denier of 3-25.

51. (ORIGINAL) The headliner according to claim 50, wherein the polymeric fibers are thermoplastic fibers.

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59. (CURRENTLY AMENDED) A laminate for use in making a thermoformed article, the laminate comprising:

first and second strengthening layers and a core layer disposed between the strengthening layers, with the strengthening layers providing the ~~predominate~~ predominant flexural rigidity for the laminate and the core layer providing the predominant ~~predominate~~ sound absorption for the laminate;

the core layer comprises a batt of nonwoven thermoplastic fibers comprising:

20-50% fine fibers with a denier in the range of approximately 0.8-3.0 denier for absorbing sound; and

10-50% binder fibers for at least binding together the fine fibers; and

the first and second strengthening layers comprise a batt of nonwoven polymeric fibers and the core layer has a resistivity greater than at least one of the first and second strengthening layers.

60. (CURRENTLY AMENDED) The laminate according to claim 59, wherein the first and second strengthening layers ~~comprise a batt of nonwoven polymeric fibers comprising regular fibers having a denier greater than the~~ have less fine fibers by weight than of the core layer and of an amount to provide structural rigidity to the laminate.

61. (ORIGINAL) The laminate according to claim 59, wherein the strengthening layers are thinner than the core layer.

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62. (ORIGINAL) The laminate according to claim 59, wherein each strengthening layer comprises less than 20% fine fibers.

63. (ORIGINAL) The laminate according to claim 62, wherein the core layer comprises at least 25% fine fibers.

64. (CURRENTLY AMENDED) The laminate according to claim 58, wherein the percentage of fine fibers in each of the strengthening layers is not greater than half the percentage of fine fibers in the core layer and the fine fibers of each strengthening layer do not exceeding 20%.

65. (NEW) A laminate for use in making a thermoformed article, the laminate comprising:

first and second strengthening layers and a core layer disposed between the strengthening layers,

wherein the core layer comprises a batt of nonwoven thermoplastic fibers comprising:

20-50% by weight fine fibers with a denier in the range of 0.8-3.0;

10-50% by weight binder fibers for at least binding together the fine fibers; and

other fibers having denier in the range of 4.0-15 denier; and

wherein the first and second strengthening layers comprise a batt of nonwoven polymeric fibers comprising:

less fine fibers by weight than in the core layer;

whereby the strengthening layers provide the predominant flexural rigidity for the laminate and the core layer provides the predominant sound absorption for the laminate.

66. (NEW) A headliner for a vehicle comprising:

first and second strengthening layers and a core layer disposed between the strengthening layers,

wherein the core layer comprises a batt of nonwoven thermoplastic fibers comprising:

20-50% by weight fine fibers with a denier in the range of 0.8-3.0;

10-50% by weight binder fibers for at least binding together the fine fibers; and

wherein the first and second strengthening layers comprise a batt of nonwoven polymeric fibers comprising:

less fine fibers by weight than in the core layer;

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whereby the strengthening layers provide the predominant flexural rigidity for the headliner and the core layer provides the predominant sound absorption for the headliner.

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